

REMARKS

Status

Claims 1, 3-15, 18, 19, and 27-31 are pending in the present application. All claims stand rejected over cited art.

Rejection Under 35 USC 103(a)

Claims 1, 3-15, 18, 19, and 27-31 stand rejected under 35 USC 103(a) over U.S. Patent No. 6,451,002 (“Dev”) in view of U.S. Patent Application No. 2002/0010415 (“Simon”). Applicant respectfully traverses, as the cited references, alone or in combination, fail to teach or suggest all the claim limitations.

The Patent Office incorrectly asserts on Page 2 (item 3) of the outstanding office action that Dev teaches a constant voltage, since the needles are stationary and the resistance remains constant. In fact, during the electroporation of tissue, it is well known that the resistance does not remain the same. Applicants submit herewith Ivorra et al., *Bioelectrochemistry* 70:287-295 (2007), as evidence of the knowledge in the art - that the tissue undergoes resistance changes during electroporation (see particularly the Discussion section on page 293). Ohm’s law teaches that if voltage is constant and the resistance is changed, then the current must change. Therefore, an applied constant voltage would not result in a constant current applied to the tissue. Applicant respectfully submits that Dev and Simon, alone or in combination, fail to teach or suggest an electroporation device able to expose tissue adjacent to needle electrodes to a substantially constant current independent of any resistance change in the selected tissue during the electrical pulse, as taught by claim 1 as amended. Independent claims 27 and 29 have been amended to recite similar, though not identical, features.

Simon fails to cure the deficiencies of Dev. Simon teaches a signal amplifier that applies an electric signal to electrodes in a series of pulses (Simon, paragraph [0062]). The signal amplifier receives a feedback signal in response to the electrical signal that measures the level of voltage that is applied, and uses the feedback to achieve an average voltage or average current through the tissue during treatment (Simon, paragraph [0063]). Applicant respectfully submits that Simon at most teaches maintaining an average current or voltage

over the entire treatment, and not maintaining substantially constant current independent of any resistance change in the selected tissue during an electrical pulse, as claimed. There is no teaching or suggestion that the signal amplifier of Simon could possibly use the feedback signal to maintain a constant current during an electrical pulse. In addition, the use of the term “average current” in Simon implies that the current may vary during pulses, rather than remaining substantially constant independent of any resistance change in the selected tissue during the electrical pulse.

Independent claim 29 teaches similar features as claim 1. Applicant therefore respectfully requests that the Examiner withdraw the rejection and allow claims 1 and 29.

With respect to dependent claim 3, Applicant respectfully submits that Simon and Dev also fail to teach or suggest an impedance tester in electrical communication with the plurality of needle electrodes. The Examiner cites paragraph [0063] of Simon as teaching such a feature. Applicant respectfully disagrees. The cited portion of Simon at most teaches that an allowable upper limit of current is established so that in the event that the electrodes are not in electrical connection with one another damage can be prevented from any rapid increase in current that may result. Applicant respectfully submits that the cited portion of Simon does not teach measuring impedance at all, but rather current. There is simply no teaching or suggestion of an impedance tester in electrical communication with the plurality of needle electrodes anywhere in Simon.

Applicant therefore respectfully submits that claim 3 is allowable over the Dev and Simon references for the foregoing reasons as well as its dependency on claim 1; and requests the withdrawal of the rejection and allowance of claim 3.

Claims 4-15, 18, and 19 are dependent on independent claim 1, and claims 30 and 31 are dependent on independent claim 29, and are therefore allowable for at least the reasons given above for claims 1 and 29. Applicant respectfully requests that the Examiner withdraw the rejections and allow claims 4-15, 18, 19, 30, and 31.

With respect to independent claim 27, Applicant respectfully submits that the Dev and Simon references entirely fail to teach or suggest a controller that is capable of managing the electroporation device to expose the selected tissue to a substantially constant current independent of any resistance change in the selected tissue during the electrical pulse, and

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measuring the resistance of the plurality of needle electrodes to determine if a circuit can safely be established through the selected tissue. As described above with respect to independent claim 1 and dependent claim 3, neither Dev nor Simon, alone or in combination, teaches or suggests such features. Applicant therefore respectfully requests that the Examiner withdraw the rejection and allow claim 27, and all claims dependent therefrom including claim 28.

In conclusion, Applicant submits that all pending claims are in condition for allowance and request an early indication of the same. Should the Examiner have any questions that may be addressed through a teleconference, the Examiner is invited to contact the undersigned attorney.

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